

The Economic Impact

of South Carolina's Forestry Industry



South Carolina
Forestry Commission



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EXECUTIVE SUMMARY

- **South Carolina's forests signify one of the state's principal assets.** In addition to representing the dominant landscape of the state, forests provide a renewable resource that generates a sizable economic impact while also providing the state's residents with a variety of recreational, wildlife, and environmental benefits.
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- **The current annual economic impact of the forestry industry on the state of South Carolina totals approximately \$23.2 billion.** This figure reflects the dollar value representing all final goods and services produced statewide that can be attributed (directly or indirectly) to the forestry industry. This level of economic activity corresponds to 100,133 jobs and more than \$5.5 billion in labor income for South Carolinians.
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- This study divides South Carolina's forestry industry into six primary segments, including timber, logging, pulp & paper, solid wood products, wood furniture, and forestry-based recreation. **The pulp & paper sector represents the largest segment within the state's forestry industry – contributing 62.9 percent of the forestry industry's total economic impact. This segment is followed by solid wood products (18.5%), forestry-based recreation (8.0%), wood furniture (5.4%), timber (2.9%), and logging (2.3%).**
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- **South Carolina's forestry industry maintains an employment multiplier of 2.1, meaning that for every 10 jobs created directly by businesses in the forestry industry, another 11 jobs, on average, are created elsewhere in South Carolina – for a total of 21 jobs.** This multiplier effect is significantly higher than that of the average industry in South Carolina (at 1.7). This implies that future growth in the forestry industry will likely generate higher employment returns for the state relative to the average industry in South Carolina.
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- The forestry industry in South Carolina also supports a significant volume of high quality, high wage jobs. Specifically, the 100,133 jobs that are currently supported by the forestry industry pay an average wage of \$55,715. **This represents a wage premium of 10.2 percent over the average job in South Carolina. Among the direct jobs in the forestry industry itself, this wage premium increases further to 19.9 percent.**
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- **Like most other industries, forestry has been significantly disrupted by the COVID-19 recession and the economic recovery that followed.** Because of increased levels of social distancing beginning in 2020, there has been significant growth in durable goods spending as consumers have shifted away from spending on in-person services.
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- This increased demand for durable goods has led to sizable growth in both the manufacturing and construction sectors in South Carolina, both of which rely heavily on raw materials from the forestry industry. As a result, **the forestry sector is estimated to have expanded at an annual rate of 4.8 percent between 2017 and 2020, or about 1.4 percentage points faster than South Carolina's economy as a whole over the same time period (+3.4%).**
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- **The forestry industry is well-positioned for continued strong growth in the coming decade.** The Southeastern U.S. is projected to experience the highest rates of population growth in the country, meaning that businesses producing consumer goods are going to be increasingly looking to locate or expand within the Southeast where their U.S. customer base is most concentrated. Such a shift in location priorities among these types of companies will provide greater local demand as well as new opportunities for South Carolina forestry-related businesses.

Section I


INTRODUCTION

South Carolina's forests signify one of the state's principal assets. In addition to representing the dominant landscape of the state, forests provide a renewable resource that generates a sizable economic impact while also providing the state's residents with a variety of recreational, wildlife, and environmental benefits. Like most other industries, the forestry sector was significantly disrupted by the COVID-19 recession and the economic recovery that followed. Yet these market disruptions have, to date, actually benefitted the forestry sector.

The United States – and especially South Carolina – has experienced consistent and steady labor market recovery following the pandemic-induced recession that took place during the Spring of 2020. The Palmetto State lost approximately 304,700 jobs – or 14 percent of its total employment base – between February and April of 2020. However, as of June 2022, all of these job losses had been recovered, and there are now more people employed statewide than there were before the pandemic began. And although South Carolina is not alone in having achieved full employment recovery, it nevertheless continues to outpace employment recovery at the national level. Total employment in South Carolina is up by approximately 1.6 percent when compared to pre-pandemic levels while U.S. employment is only up by approximately 0.1 percent.¹

¹ Source: U.S. Bureau of Labor Statistics, CES-SA



A photograph of a wooden deck with a green metal chair and a white bag, surrounded by lush green trees. The deck is made of light-colored wood and has a black metal railing. The background is filled with dense green foliage and trees. A semi-transparent text box is overlaid on the right side of the image.

Part of this recovery has been driven by significant growth in durable goods spending. Because of the increased levels of social distancing throughout 2020 and early 2021, Americans shifted their spending away from in-person services and towards consumer goods. Moreover, despite a significant rebound in the demand for in-person services over the past twelve months, the demand for durable goods remains elevated at more than 10 percent above its long-run growth trend. This demand has directly led to sizable growth in both the manufacturing and construction industries in South Carolina, which rely heavily on raw materials from the forestry industry.

The purpose of this research effort is to provide a comprehensive assessment of the current economic impact of the forestry industry in South Carolina in order to better understand its size and scope following the dramatic changes to the state's economy after the onset of the COVID-19 pandemic. This study begins by establishing a formal definition of forestry in South Carolina to be used in this report as well as providing a discussion surrounding the general methodology of economic impact analysis; Sections III and IV then move to a discussion of the current economic impact of forestry on South Carolina, including its various subsectors. Finally, Section V provides a brief conclusion.

Section II

INDUSTRY DEFINITIONS & METHODOLOGY



South Carolina's forestry industry represents a diverse group of businesses located throughout the state. For the purposes of this report, the forestry industry will be specifically grouped into six main categories: timber, logging, pulp & paper, solid wood products, wood furniture, and forestry-based recreation. The definitions and total size of each category, that is – the included industry sectors – are broadly consistent with previous research documenting South Carolina's forestry industry that has been completed by the South Carolina Forestry Commission.

Within each of the six major forestry categories, businesses are operating and are collectively generating billions of dollars in economic activity and directly employing thousands of workers across the state every year. Yet these activities do not provide a complete picture of the impact of forestry in the Palmetto State. The expenditures that occur as part of all ongoing operations of businesses within the industry represent direct economic activity within the local regions in which they are made. However, these expenditures also lead to additional job creation and economic activity by way of the economic multiplier effect (or economic ripple effect).

Economic multiplier effects can be divided into direct, indirect, and induced impacts. The direct impact reflects all in-state purchases made by forestry-related businesses themselves. These expenditures incorporate purchases related to, for example, employee wages and benefits, equipment, building maintenance, and other overhead or administrative costs. This spending activity increases demand and leads to the creation of new jobs and more income for employees and suppliers of these forestry-related businesses.

The indirect impact reflects all additional economic activity that results from inter-industry linkages between local firms in South Carolina. For example, when a South Carolina wood furniture manufacturer purchases raw materials from in-state vendors such as raw timber/lumber or fabric materials, these in-state vendors experience an increase in demand. To satisfy this demand, they must purchase additional inputs from their own suppliers. These suppliers must then purchase additional supplies as well, and so on. These indirect effects ripple through the economy and affect many sectors throughout South Carolina.

The induced impact reflects additional economic activity that results from increases in the spending of household income. For example, when the aforementioned wood furniture manufacturer purchases materials from one of its suppliers and the overall demand for this supplier firm rises, some of the staff working for this supplier will see a rise in their income levels. Part of this income will then be spent locally on, for example, food, entertainment, or housing. These industries will then also see an increase in demand for their goods and services, which will lead to higher incomes for some of their employees, part of which will also be spent locally.

These successive rounds of indirect and induced spending do not go on forever, which is why we can calculate a value for each of them. In each round, money is “leaked out” for a variety of reasons. For example, firms may purchase some of their supplies from vendors located outside of South Carolina. In addition, employees will save part of their income or spend part of it with firms located outside of the state. In order to determine the total economic impact that will result from an initial direct impact, economic multipliers are used. An economic multiplier can be used to determine the total impact (direct, indirect, and induced) that results from an initial change in economic activity (the direct impact). Multipliers are different in each sector of the economy and are largely determined by the size of the local supplier network as well as the particular region being examined. In addition, economic multipliers are available to calculate not just the total impact, but also the total employment and income levels associated with the total impact.

To estimate the impact of the forestry industry on the state of South Carolina, the Division of Research used a detailed structural model of the South Carolina economy containing specific information on economic linkages across the state’s 534 industrial sectors. This study also utilized the input-output modeling software IMPLAN in calculating estimates.

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE TIMBER SECTOR

The timber sector of the forestry industry is defined to include all businesses engaged in the establishment and management of forestland in South Carolina. These businesses include nursery and tree improvement operations, site preparation, forest fertilization, short rotation woody crops, pine straw production, TIMO and REIT operations, and businesses providing various supporting and/or consulting services. In addition, public sector support for forestry was also included through the incorporation of activities of the South Carolina Forestry Commission, the United States Department of Agriculture (USDA) Forest Service, and forestry programs at South Carolina's higher education institutions. **Table 1** and **Figure 1** each highlight the direct impacts of these timber-specific industry sectors along with their growth rates over time. Note that each industry sector corresponds to a specific IMPLAN category.

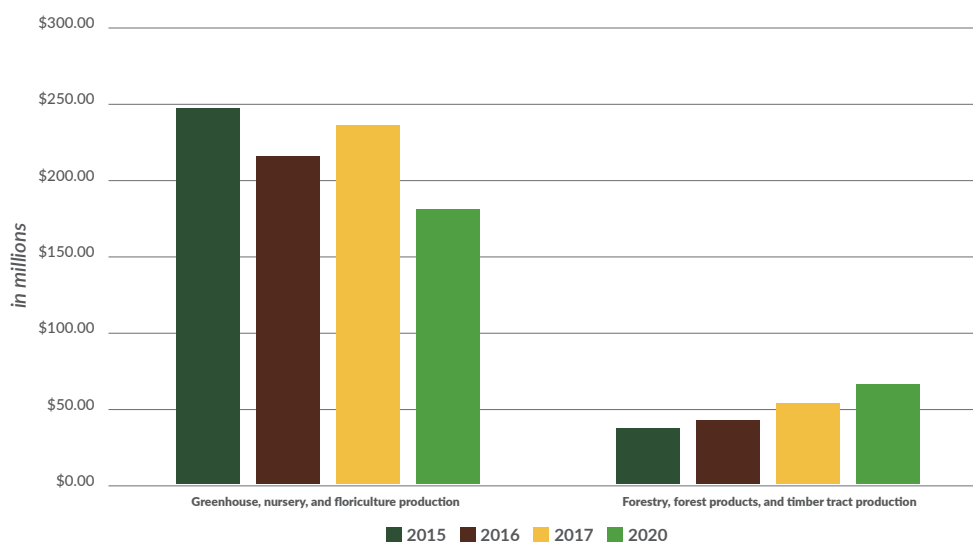
TABLE 1 - DIRECT ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: TIMBER SECTOR

**Denotes the forestry-related subset of this industry category*

Industry Description	Direct Economic Output
Greenhouse, nursery, and floriculture production	\$179,843,928
Support activities for agriculture and forestry	\$65,075,033
Forestry, forest products, and timber tract production	\$55,659,517
Employment and payroll of federal govt, non-military*	\$40,449,249
Employment and payroll of state govt, hospitals, and health services*	\$36,621,448
Pine straw ²	\$28,521,313
Junior colleges, colleges, universities, and professional schools*	\$1,509,622

Total	\$407,680,110

FIGURE 1 - CHANGES IN DIRECT ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: SELECTED TIMBER SECTORS



² Note that pine straw was modeled in the "All other crops" IMPLAN category.

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE TIMBER SECTOR

The total direct economic impact of the timber sector of forestry in South Carolina is estimated at \$407.7 million annually. This estimate reflects the total dollar value representing all final goods and services produced in South Carolina that can be directly attributed to both labor and non-labor expenditures on the part of timber-related businesses at their many locations statewide. Because it includes all spending by consumers and businesses on both goods and services, it is an all-inclusive measure of direct economic activity. Approximately 6,507 jobs and \$192.1 million in labor income are associated with this \$407.7 million in direct economic activity.

In addition to these direct impacts, this \$407.7 million in economic activity from the timber sector leads to indirect effects totaling approximately \$118.2 million in economic output and 1,179 jobs. These estimates reflect the increased demand for goods and services of local suppliers resulting from in-state expenditures on the part of timber-related firms. The direct economic activity also leads to induced effects totaling another \$148.2 million in economic output and 1,040 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$674.1 million, which is associated with 8,726 jobs across South Carolina. Each of these estimates is displayed in **Table 2**.³ Note that the size of the timber sector has increased by approximately 35.8 percent since 2017 – which represents an average annual growth rate of 10.7 percent. The timber sector – along with most other forestry sectors – experienced an increase in total economic activity between 2017 and 2020 due to the significant shift in consumer spending patterns towards durable goods and away from in-person services following the onset of the COVID-19 pandemic. This resulted in an increase in demand in industries like manufacturing and construction, which rely heavily on raw materials from the forestry sector.

TABLE 2 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: TIMBER SECTOR

	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	6,507	\$192,093,353	\$256,531,758	\$407,680,110
Indirect Impact	1,179	\$45,134,458	\$66,514,224	\$118,223,545
Induced Impact	1,040	\$45,404,898	\$84,264,691	\$148,233,163
Total Impact	8,726	\$282,632,709	\$407,310,671	\$674,136,818

Pct. Change Since 2017	+54.1%	+28.3%	+31.9%	+35.8%
Multiplier Effect	1.34	1.47	1.59	1.65

³ Note that all labor income estimates reflect total employee compensation, including wages, salaries, and benefits.

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE LOGGING SECTOR

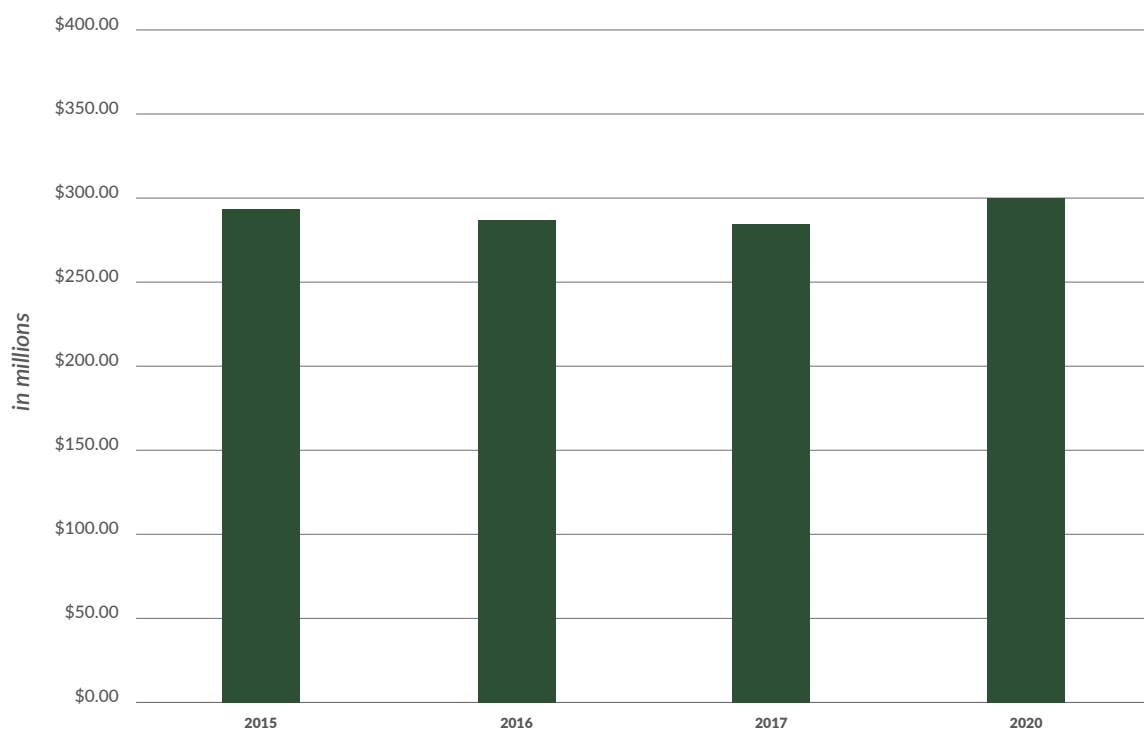
The logging sector of the forestry industry is broadly defined to include businesses primarily engaged in either cutting/transporting timber or producing wood chips. The logging sector is unique in that it is the only sector on which all others in forestry depend. Loggers are required for timberland owners to harvest and transport their timber to market and, more generally, are the first supplier for commercial wood product markets. **Table 3** and **Figure 2** each highlight the direct impacts of the one logging-specific industry sector along with its growth rate over time.

TABLE 3 – ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: LOGGING SECTOR

<i>Industry Description</i>	<i>Direct Economic Output</i>
Commercial logging	\$300,694,452

Total	\$300,694,452

FIGURE 2 – CHANGES IN ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: LOGGING SECTOR



Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE LOGGING SECTOR

The total direct economic impact of the logging sector of forestry in South Carolina is estimated at \$300.7 million annually. This estimate reflects the total dollar value representing all final goods and services produced in South Carolina that can be directly attributed to both labor and non-labor expenditures on the part of logging-related businesses at their many locations statewide. Because it includes all spending by consumers and businesses on both goods and services, it is an all-inclusive measure of direct economic activity. Approximately 3,848 jobs and \$186.0 million in labor income are associated with this \$300.7 million in direct economic activity.

In addition to these direct impacts, this \$300.7 million in economic activity from the logging sector leads to indirect effects totaling approximately \$77.4 million in economic output and 1,222 jobs. These estimates reflect the increased demand for goods and services of local suppliers resulting from in-state expenditures on the part of logging-related firms. The direct economic activity also leads to induced effects totaling another \$144.9 million in economic output and 1,017 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$523.0 million, which is associated with 6,087 jobs across South Carolina. Each of these estimates is displayed in **Table 4**. Note that the size of the logging sector has increased by approximately 12.1 percent since 2017 – which represents an average annual growth rate of 3.9 percent. The logging sector – along with most other forestry sectors – experienced an increase in total economic activity between 2017 and 2020 due to the significant shift in consumer spending patterns towards durable goods and away from in-person services following the onset of the COVID-19 pandemic. This resulted in an increase in demand in industries like manufacturing and construction, which rely heavily on raw materials from the forestry sector.

TABLE 4 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: LOGGING SECTOR

	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	3,848	\$186,035,337	\$179,984,313	\$300,694,452
Indirect Impact	1,222	\$45,076,050	\$53,595,764	\$77,400,889
Induced Impact	1,017	\$44,376,731	\$82,343,532	\$144,855,571
Total Impact	6,087	\$275,488,118	\$315,923,609	\$522,950,912

Pct. Change Since 2017	+2.3%	+20.0%	+8.2%	+12.1%
Multiplier Effect	1.58	1.48	1.76	1.74

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE PULP & PAPER SECTOR

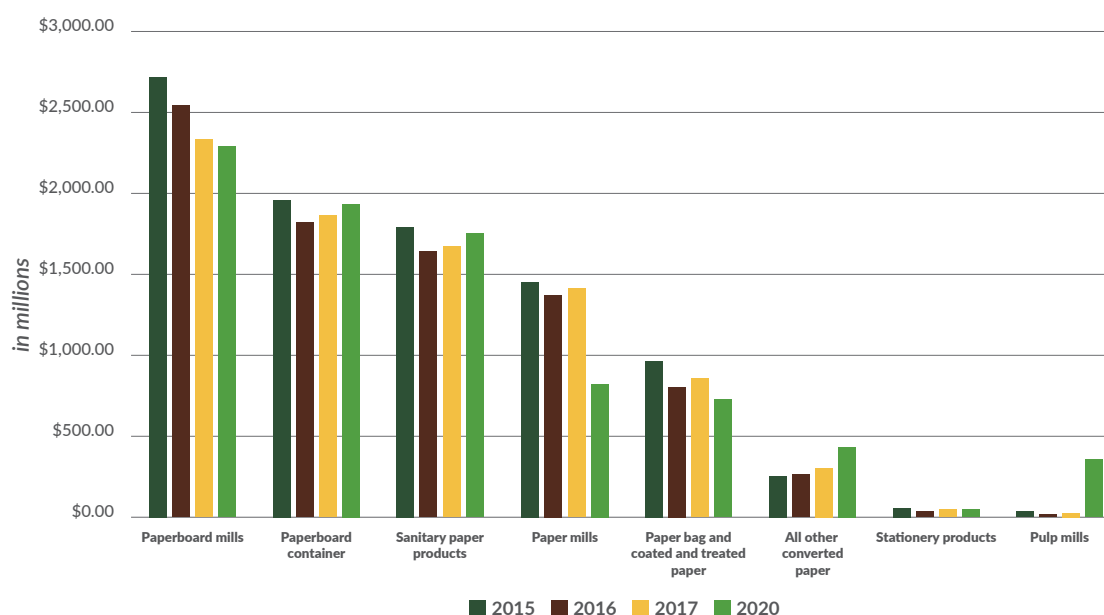
The pulp & paper sector of the forestry industry is defined to include all businesses generally engaged in using wood as the primary raw material to produce pulp, paper, paperboard, and other cellulose-based products. Pulp & paper represents the largest sector within South Carolina's forestry industry – contributing over 60 percent of the forestry industry's economic impact in the Palmetto State. **Table 5** and **Figure 3** each highlight the direct impacts of all pulp & paper industry sectors along with their growth rates over time. Note that each industry sector corresponds to a specific IMPLAN category.

TABLE 5 - ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: PULP & PAPER SECTOR

<i>Industry Description</i>	<i>Direct Economic Output</i>
Paperboard Mills	\$2,283,349,326
Paperboard container manufacturing	\$1,929,405,185
Sanitary paper product manufacturing	\$1,754,321,699
Other basic organic chemical manufacturing	\$997,990,197
Paper mills	\$822,868,432
Paper bag and coated and treated paper manufacturing	\$728,133,707
All other converted paper product manufacturing	\$436,466,493
Pulp mills	\$352,573,615
Electric power generation-Biomass	\$263,753,310
Stationery product manufacturing	\$52,337,887
Sawmill, woodworking, and paper machinery	\$12,958,005 ⁴

Total	\$9,634,157,857

FIGURE 3 - CHANGES IN ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: PULP & PAPER SECTOR



⁴ To maintain consistency with previous SCFC methodology, 50% of this IMPLAN category was classified as pulp & paper and 50% was classified as wood products.

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE PULP & PAPER SECTOR

The total direct economic impact of the pulp & paper sector of forestry in South Carolina is estimated at \$9.6 billion annually. This estimate reflects the total dollar value representing all final goods and services produced in South Carolina that can be directly attributed to both labor and non-labor expenditures on the part of pulp & paper-related businesses at their many locations statewide. Because it includes all spending by consumers and businesses on both goods and services, it is an all-inclusive measure of direct economic activity. Approximately 12,789 jobs and \$1.4 billion in labor income are associated with this \$9.6 billion in direct economic activity.

In addition to these direct impacts, this \$9.6 billion in economic activity from the pulp & paper sector leads to indirect effects totaling approximately \$3.5 billion in economic output and 17,439 jobs. These estimates reflect the increased demand for goods and services of local suppliers resulting from in-state expenditures on the part of pulp & paper-related firms. The direct economic activity also leads to induced effects totaling another \$1.5 billion in economic output and 10,483 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$14.6 billion, which is associated with 40,711 jobs across South Carolina. Each of these estimates is displayed in **Table 6**. Note that the size of the pulp & paper sector has increased by approximately 14.2 percent since 2017 – which represents an average annual growth rate of 4.5 percent. The pulp & paper sector – along with most other forestry sectors – experienced an increase in total economic activity between 2017 and 2020 due to the significant shift in consumer spending patterns towards durable goods and away from in-person services following the onset of the COVID-19 pandemic. This resulted in an increase in demand in industries like manufacturing and construction, which rely heavily on raw materials from the forestry sector.

TABLE 6 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: PULP & PAPER SECTOR

	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	12,789	\$1,361,449,376	\$2,949,472,410	\$9,634,157,857
Indirect Impact	17,439	\$1,027,798,354	\$1,628,726,325	\$3,483,392,920
Induced Impact	10,483	\$457,839,814	\$849,745,782	\$1,494,808,671
Total Impact	40,711	\$2,847,087,548	\$5,427,944,517	\$14,612,359,448

Pct. Change Since 2017	-0.3%	10.6%	11.6%	14.2%
Multiplier Effect	3.18	2.09	1.84	1.52

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE SOLID WOOD PRODUCTS SECTOR

The solid wood products sector of the forestry industry is generally defined to include all businesses engaged in the production of any solid wood product using timber as a primary raw material (except for furniture). These products include lumber, panels of veneer or chips for structural or non-structural applications, and other miscellaneous products such as posts, poles, or pilings. Construction accounts for the majority of solid wood product consumption.

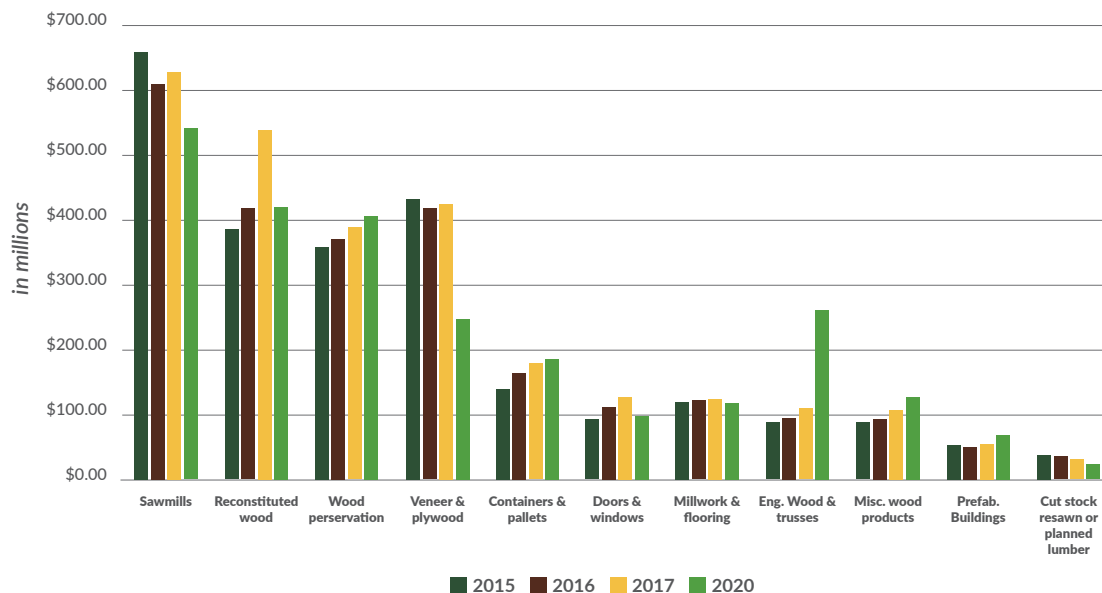
Table 7 and **Figure 4** each highlight the direct impacts of these solid wood products industry sectors along with their growth rates over time. Note that each industry sector corresponds to a specific IMPLAN category.

TABLE 7 – ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: SOLID WOOD PRODUCTS SECTOR

<i>Industry Description</i>	<i>Direct Economic Output</i>
Sawmills	\$541,489,704
Reconstituted wood product manufacturing	\$420,523,276
Wood preservation	\$405,633,622
Engineered wood member and truss manufacturing	\$262,813,772
Veneer and plywood manufacturing	\$249,127,286
Wood container and pallet manufacturing	\$187,726,243
All other miscellaneous wood product manufacturing	\$129,753,978
Other millwork, including flooring	\$119,949,665
Wood windows and door manufacturing	\$99,099,372
Prefabricated wood building manufacturing	\$69,802,730
Cut stock, resawing lumber, and planing	\$26,008,093
Sawmill, woodworking, and paper machinery	\$12,958,005

Total	\$2,524,885,745

FIGURE 4 – CHANGES IN ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: SOLID WOOD PRODUCTS SECTOR



Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE SOLID WOOD PRODUCTS SECTOR

The total direct economic impact of the solid wood products sector of forestry in South Carolina is estimated at \$2.5 billion annually. This estimate reflects the total dollar value representing all final goods and services produced in South Carolina that can be directly attributed to both labor and non-labor expenditures on the part of solid wood products-related businesses at their many locations statewide. Because it includes all spending by consumers and businesses on both goods and services, it is an all-inclusive measure of direct economic activity. Approximately 8,492 jobs and \$581.6 million in labor income are associated with this \$2.5 billion in direct economic activity.

In addition to these direct impacts, this \$2.5 billion in economic activity from the solid wood products sector leads to indirect effects totaling approximately \$1.2 billion in economic output and 7,386 jobs. These estimates reflect the increased demand for goods and services of local suppliers resulting from in-state expenditures on the part of solid wood products-related firms. The direct economic activity also leads to induced effects totaling another \$622.8 million in economic output and 4,368 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$4.3 billion, which is associated with 20,246 jobs across South Carolina. Each of these estimates is displayed in **Table 8**.

Note that the size of the solid wood products sector has decreased by approximately 5.4 percent since 2017 and is the only forestry sector to have experienced a decline during this three-year period. This is unusual considering that most other forestry sectors experienced an increase in total economic activity between 2017 and 2020 due to the significant shift in consumer spending patterns towards durable goods and away from in-person services following the onset of the COVID-19 pandemic. This resulted in an increase in demand in industries like manufacturing and construction, which rely heavily on raw materials from the forestry sector.

The 3 subsectors within solid wood products that drove this decline were veneer & plywood manufacturing, wood windows & door manufacturing, and cut stock, resawing lumber, & planing. It may be the case that despite high demand throughout 2020 due to increased consumer spending on durable goods, various supply chain constraints (including labor constraints) limited production in these specific subsectors.

TABLE 8 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: SOLID WOOD PRODUCTS SECTOR

	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	8,492	\$581,649,860	\$847,326,939	\$2,524,885,745
Indirect Impact	7,386	\$414,666,384	\$574,360,525	\$1,154,237,091
Induced Impact	4,368	\$190,756,031	\$354,009,154	\$622,751,550
Total Impact	20,246	\$1,187,072,275	\$1,775,696,618	\$4,301,874,386

Pct. Change Since 2017	-7.7%	6.5%	-1.0%	-5.4%
Multiplier Effect	2.38	2.04	2.10	1.70

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE WOOD FURNITURE SECTOR

The wood furniture sector of the forestry industry consists of over 400 companies that manufacture household and office furniture, including kitchen cabinets, upholstered and non-upholstered wood furniture, architectural woodwork, shelving, box springs, blinds, and burial urns and caskets. More generally, these are companies that typically manufacture secondary forestry products. Because such products are often handcrafted and built to last for decades, they are typically of high quality and represent the most highly valued wood items manufactured in South Carolina. **Table 9** highlights the direct impacts of the wood furniture industry sectors along with their growth rates over time. Note that each industry sector corresponds to a specific IMPLAN category.

TABLE 9 – ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: WOOD FURNITURE SECTOR

<i>Industry Description</i>	<i>Direct Economic Output</i>
Mattress manufacturing	\$300,495,699
Wood kitchen cabinet and countertop manufacturing	\$295,082,342
Showcase, partition, shelving and locker manufacturing	\$126,329,261
Broom, brush, and mop manufacturing	\$28,841,675
Custom architectural woodwork and millwork	\$27,970,479
Nonupholstered wood household furniture manufacturing	\$21,342,022
Wood office furniture manufacturing	\$17,117,222
Blind and shade manufacturing	\$16,790,453
Upholstered household furniture manufacturing	\$12,118,978
Institutional furniture manufacturing	\$11,546,128
Burial casket manufacturing	\$8,026,839

Total	\$865,661,099



Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

THE WOOD FURNITURE SECTOR

The total direct economic impact of the wood furniture sector of forestry in South Carolina is estimated at \$865.7 million annually. This estimate reflects the total dollar value representing all final goods and services produced in South Carolina that can be directly attributed to both labor and non-labor expenditures on the part of wood furniture-related businesses at their many locations statewide. Because it includes all spending by consumers and businesses on both goods and services, it is an all-inclusive measure of direct economic activity. Approximately 3,196 jobs and \$155.3 million in labor income are associated with this \$865.7 million in direct economic activity.

In addition to these direct impacts, this \$865.7 million in economic activity from the wood furniture sector leads to indirect effects totaling approximately \$240.0 million in economic output and 1,343 jobs. These estimates reflect the increased demand for goods and services of local suppliers resulting from in-state expenditures on the part of wood furniture-related firms. The direct economic activity also leads to induced effects totaling another \$147.0 million in economic output and 1,031 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$1.3 billion, which is associated with 5,570 jobs across South Carolina. Each of these estimates is displayed in **Table 10**. Note that the size of the wood furniture sector has increased by approximately 0.8 percent since 2017. The wood furniture sector – along with most other forestry sectors – experienced an increase in total economic activity between 2017 and 2020 due to the significant shift in consumer spending patterns towards durable goods and away from in-person services following the onset of the COVID-19 pandemic. This resulted in an increase in demand in industries like manufacturing and construction, which rely heavily on raw materials from the forestry sector. Nevertheless, the increase in wood furniture output was among the smallest increases observed across forestry sectors that grew between 2017 and 2020. Moreover, total employment declined despite this increase in total economic activity. This is likely due to a combination of additional productivity in the industry along with the widespread labor shortage that emerged in 2020 following the onset of the pandemic.

TABLE 10 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: WOOD FURNITURE SECTOR

	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	3,196	\$155,257,365	\$431,377,640	\$865,661,099
Indirect Impact	1,343	\$80,223,651	\$118,945,025	\$240,009,343
Induced Impact	1,031	\$45,014,790	\$83,546,225	\$146,968,438
Total Impact	5,570	\$280,495,806	\$633,868,890	\$1,252,638,880

Pct. Change Since 2017	-9.6%	-1.4%	4.6%	0.8%
Multiplier Effect	1.74	1.81	1.47	1.45

Section III

THE ECONOMIC IMPACT OF FORESTRY: A SECTOR-BY-SECTOR BREAKDOWN

FORESTRY-BASED RECREATION

In addition to providing the raw materials for manufacturing forestry-based products, the state's forests also provide South Carolina residents and visitors with a variety of recreational opportunities. These include everything from hiking and wildlife observation to fishing and hunting. The expenditures made by individuals looking to take part in these activities, in turn, generate new economic activity for the state. Such purchases would typically include sporting gear (e.g., fishing equipment, rifles, binoculars) along with travel-related expenses (e.g., hotel stays, restaurants, recreational vehicles, hunting licenses). As in the case of forestry-related businesses previously documented, these expenditures ripple through the economy and generate additional spending activity via the economic multiplier effect. To calculate the economic impact of forestry-based recreation, this study updates previous estimates generated by the SCFC (in 2017) to account for population growth in subsequent years. The original SCFC estimates, in turn, were based off of primary and secondary data obtained by Willis & Straka (2016) and the U.S. Fish and Wildlife Service.

The total direct economic impact of forestry-based recreation in South Carolina is estimated at \$1.0 billion annually. Approximately 13,422 jobs and \$446.4 million in labor income are also associated with this \$1.0 billion in direct economic activity. In addition to these direct impacts, this \$1.0 billion in economic activity leads to indirect effects totaling approximately \$453.5 million in economic output and 2,850 jobs. These estimates reflect the increased demand for goods and services of local suppliers resulting from in-state expenditures coming from forestry-based recreation. The direct economic activity also leads to induced effects totaling another \$370.5 million in economic output and 2,521 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$1.9 billion, which is associated with 18,793 jobs across South Carolina. Each of these estimates is displayed in **Table 11**.

TABLE 11 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA FORESTRY: FORESTRY-BASED RECREATION

	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	13,422	\$446,403,174	\$573,636,665	\$1,036,766,841
Indirect Impact	2,850	\$146,085,861	\$226,709,661	\$453,489,166
Induced Impact	2,521	\$113,641,890	\$210,601,174	\$370,476,149
Total Impact	18,793	\$706,130,925	\$1,010,947,500	\$1,860,732,156

Pct. Change Since 2017	+5.9%	+32.3%	+1.1%	+12.7%
Multiplier Effect	1.40	1.58	1.76	1.79

Section IV

THE ECONOMIC IMPACT OF FORESTRY: SOUTH CAROLINA TOTALS

Each of the individual forestry sectors previously outlined in **Section III** can be combined to illustrate the total economic impact of the forestry industry on the state of South Carolina. As of 2020, the total annual economic impact of forestry on the state of South Carolina is estimated to be approximately \$23.2 billion. This level of economic activity is associated with approximately 100,133 jobs and more than \$5.5 billion in labor income for South Carolinians. These results are summarized in **Table 12**.

TABLE 12 – TOTAL ECONOMIC IMPACT OF SOUTH CAROLINA'S FORESTRY INDUSTRY

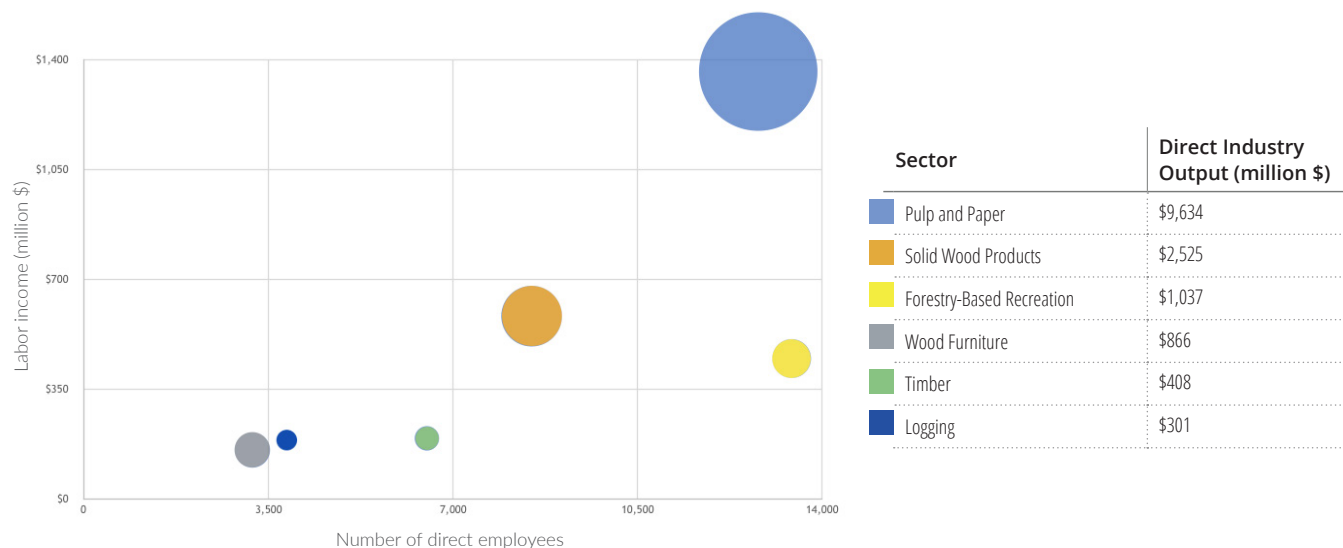
	<i>Employment</i>	<i>Labor Income</i>	<i>Value Added</i>	<i>Economic Output</i>
Direct Impact	48,255	\$2,922,888,463	\$5,238,329,725	\$14,769,889,934
Indirect Impact	31,418	\$1,758,984,763	\$2,668,851,524	\$5,526,752,954
Induced Impact	20,460	\$897,034,155	\$1,664,510,556	\$2,928,093,541
Total Impact	100,133	\$5,578,907,381	\$9,571,691,805	\$23,224,736,429

Pct. Change Since 2017	+1.9%	+12.5%	+8.0%	+9.6%
Multiplier Effect	2.08	1.91	1.83	1.57

As of 2020, the total annual economic impact of the forestry industry on the state of South Carolina is estimated to be approximately \$23.2 billion. This level of economic activity is associated with approximately 100,133 jobs and more than \$5.5 billion in labor income for South Carolinians.

South Carolina's forestry industry directly employs approximately 48,255 workers across the state in each of the six forestry sectors previously described in this report, which generates an annual dollar volume of \$14.8 billion in economic output. This level of direct economic activity, in turn, leads to indirect effects totaling approximately \$5.5 billion in economic output and 31,418 jobs. These estimates reflect increased demand for goods and services of in-state suppliers resulting from in-state expenditures on the part of forestry-related firms. This direct economic activity also leads to induced effects totaling \$2.9 billion in economic output and 20,460 jobs. This is a reflection of economic activity in South Carolina generated across all industries that is the result of increased household spending. The combination of the direct, indirect, and induced effects leads to a total economic impact of approximately \$23.2 billion, which is associated with 100,133 jobs across South Carolina. The relative contributions of each sector to these totals is shown in **Figure 5**.

FIGURE 5 - DIRECT ECONOMIC EFFECTS OF FORESTRY SECTORS IN SOUTH CAROLINA



There are at least three major takeaways that come about from the estimates shown in Table 12 and Figure 5.

The first is to note the sheer size of the forestry industry's economic presence in South Carolina. This can be clearly observed by comparing the direct economic impact of forestry shown in Table 12 to other prominent aggregate industry sectors in the state as illustrated in Figure 6.

FIGURE 6 - DIRECT ECONOMIC IMPACT OF SELECTED SOUTH CAROLINA AGGREGATE INDUSTRY SECTORS

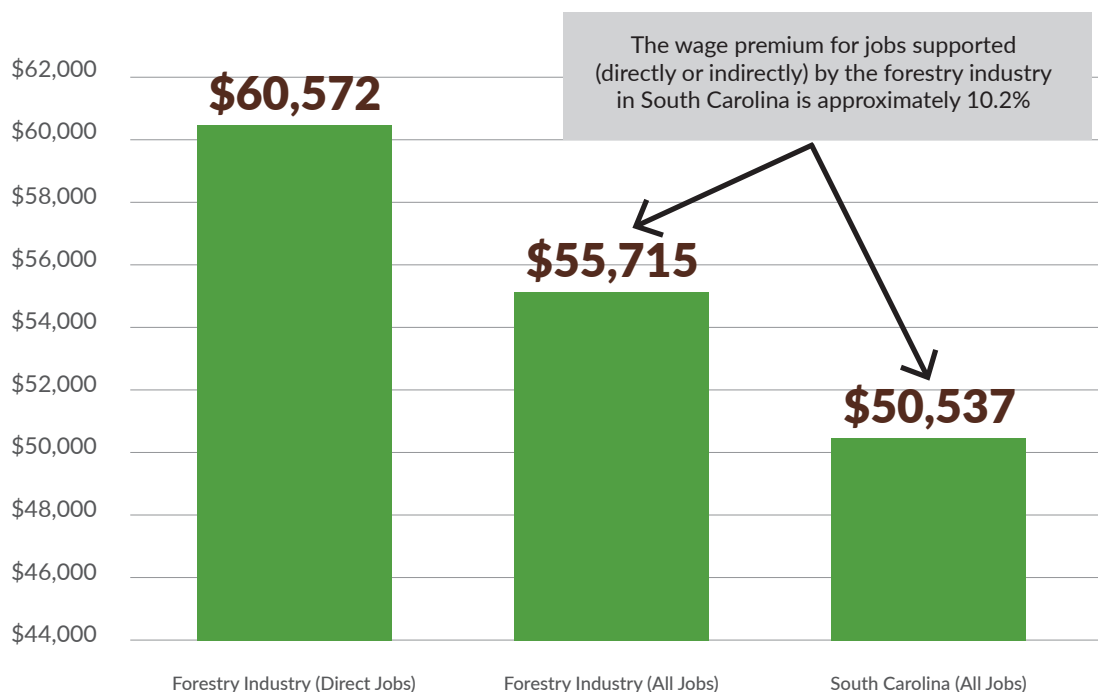


A second major takeaway of these statewide results stems from the fact that the forestry industry is a major contributor to both job quantity and job quality in South Carolina. Note first the contribution forestry makes to job quantity – or the total volume of jobs that are generated by the forestry industry. Perhaps the best way to illustrate the job creation that the forestry sector supports is through the employment multiplier. As displayed in **Table 12**, the forestry industry specifically maintains an employment multiplier of 2.1, meaning that for every 10 jobs created directly by businesses in the forestry sector, another 11 jobs, on average, are created elsewhere in South Carolina. This additional secondary job creation arises from increases in total demand that results from forestry-related businesses purchasing raw materials and supplies from their vendors and from workers at these businesses spending their wages in the local economy in a variety of industries (e.g., food, entertainment, health care). This multiplier effect of 2.1 is also significantly higher than that of the average industry in South Carolina, which is 1.7. This means that future growth in the forestry sector will likely generate a higher employment return relative to the average industry in South Carolina.

Future growth in the forestry sector will likely generate a higher employment return relative to the average industry in South Carolina.

Next, consider job quality – which can be represented by the wage level of forestry-related jobs. The 100,133 jobs that are currently supported by the forestry industry (and include all direct and secondary job creation) pay an average wage of \$55,715. This represents a wage premium of 10.2 percent over the average job in South Carolina. Moreover, among the direct jobs in the forestry industry itself, this wage premium increases further to 19.9 percent.

FIGURE 7 – SOUTH CAROLINA ANNUAL WAGE COMPARISONS





The forestry industry is estimated to have expanded at an annual rate of 4.8 percent between 2017 and 2020, or about 1.4 percentage points faster than South Carolina's economy as a whole over the same time period (+3.4%).

The third major takeaway that arises from the statewide results highlight the economic impact of the forestry industry is the fact that the forestry industry is estimated to have expanded at an annual rate of 4.8 percent between 2017 and 2020, or about 1.4 percentage points faster than South Carolina's economy as a whole over the same time period (+3.4%). As previously noted, much of this increase was the result of a significant growth in durable goods spending among consumers throughout 2020 – and which subsequently extended into 2021. Because of the need for social distancing, Americans shifted their spending away from in-person services and towards consumer goods, which especially boosted demand in manufacturing and construction. Both of these industries, in turn, rely heavily on forestry-related materials for production. This elevated demand for durable goods has persisted into 2022 and continues to support high levels of economic activity in the forestry industry.

Section V

CONCLUSION

It is increasingly likely that the United States economy will experience a recession sometime within the next 12 months. Because of the nation's persistently high inflation rate, as of October 2022, the Federal Reserve has publicly stated that they will continue to aggressively pursue interest rate hikes as they have throughout this year. The likely impact of these steady rate hikes is a broad pullback in demand in the coming months that could lead to a recession. This impact can already be observed in the housing market, where a steady decline in housing sales has occurred this year.

Yet despite this potential for an economic contraction that will slow growth in the short run, the forestry industry is nevertheless well-positioned for strong, long-run growth in the coming decade. The U.S. Census Bureau estimates that the Southeastern United States will experience the highest rate of population growth among all U.S. regions over the next 20 years. This implies that businesses producing consumer goods are going to be increasingly looking to locate or expand within the Southeast where their U.S. customer base is most concentrated. Such a shift in location priorities among these types of companies will provide greater local demand as well as new opportunities for South Carolina forestry-related businesses. This potential growth in the forestry industry will, in turn, be an important element in helping to position South Carolina to be able to continue to outpace the nation's economic growth rate in the 2020s as it has over the previous decade.





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